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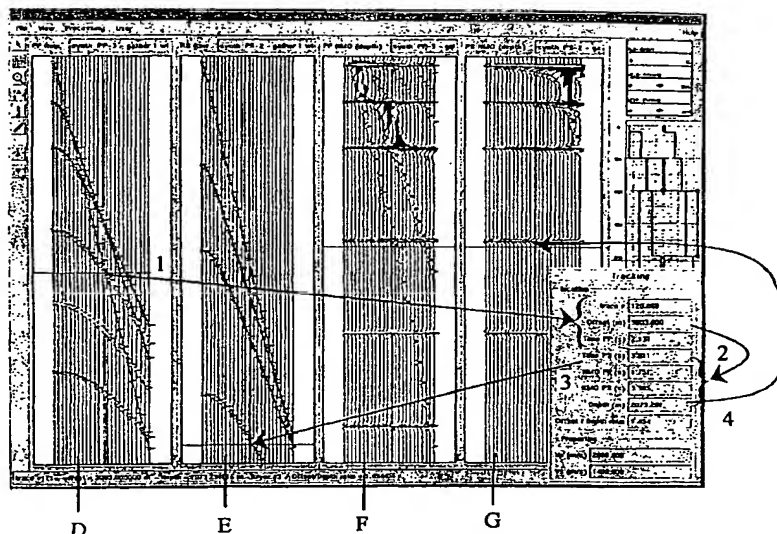
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(54) Title: **PROCESSING SEISMIC DATA**



(57) Abstract: A method of processing seismic data comprises identifying the value of a first parameter associated with an event in a first set of seismic data. The value of a second parameter associated with a corresponding event in a second set of seismic data is then obtained using at least one look-up table. The first parameter may be, for example, PP travel time with the first data set being a raw PP data set, and the second parameter may be, for example, PS travel time with the second data set being a raw PS data set or reflection depth. The invention makes it possible to identify pairs of corresponding PP and PS events in raw data traces. The look-up table(s) are obtained using an assumed model for the velocity of propagation of acoustic energy within the earth. The results of the method may be used in quality control, or may be used to correct the velocity model.

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